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NATURAL HISTORY MISCELLANY.

BOTANY.

DOUBLE FLOWERED SARRACENIA. — In the summer of 1867, I found a specimen of the *Sarracenia purpurea*, double, in East Hampton, Mass. In the summer of 1868, I found a specimen of the *Geranium maculatum*, with all the parts of the flower of a pure white. — E. S. MILLER, *Wading River, N. Y.*

ZOOLOGY.

THE BREEDING HABITS OF BIRDS are subject to so great variations, that it is not safe to give the practices of a few individuals as being the general habits of the species. Any one who has given much attention to the subject, must be convinced of this, both from his own experience and that of others who have written upon the subject. And there can be no doubt that the apparent discrepancies of writers are frequently the result of founding conclusions upon insufficient data. Take the Kingfisher as an example. In a number of cases which have come under my observation, the passages leading to the nests were invariably straight, so that there was no difficulty in reaching the extremity of the excavation with a straight stick. This agrees with Dr. Wood's experience as given in the September number of the NATURALIST. Mr. Samuels, in his "Birds of New England," says they excavate a "winding hole." Mr. Fowler and Mr. Endicott, in the NATURALIST, describe them as being "in the form of an elbow." But while all these descriptions are doubtless correct, is it correct to state in general terms that the passage is in the form of an elbow, thus implying that this is the invariable, or even general form? One of the nests which I have found had the bottom covered with fish bones, the ejected pellets of the bird, and upon these the eggs were laid.

I have in my collection a set of Long-eared Owls' eggs, six in number. I have not been fortunate enough to find another nest, but should I represent this species as usually laying six eggs, I should probably convey a wrong impression.

While visiting a heronry last spring, on one of the low islands off the coast of Cape Charles, Va., I found a nest of the Clapper-rail (*Rallus crepitans*) built in a bush, and about a foot from the ground. I have seen many nests of this species, but that is the only instance in which I have known the bird to nest elsewhere than on the ground. The land was low and wet, and liable to inundation, which was the probable cause of the bird's departure from the usual habit of the species.

In an article by Mr. Fowler in the September number of the NATURALIST, I find the eggs of the Ruffed Grouse thus described: "The color of

the eggs is yellowish-white, marked with reddish brown spots. Usually the last ones of the litter are without spots, and of a lighter color; a few larger round spots appear to be laid on the surface of the shell and raised above it." To this I would say that I have seen a great many eggs of the grouse, but only a few were marked as thus described. And while the description is true to a certain extent, it may be questioned whether it is applicable to "typical specimens." On the 29th of April, 1865, I found a nest of the grouse, containing nine eggs of a pure white color, with the exception of a few stains, which were soon removed by the application of soap and water. After a time the color changed to a brownish white.

On the 3d of May, 1866, I took three eggs from the nest of a Marsh-hawk. There was no appearance of spots upon them. As I had seen the birds about the place for two weeks, selecting a spot and building their nest, I feel sure that this was the first litter. But last spring I obtained six eggs from a nest, and all were marked with numerous light brown spots and blotches. The same nest was occupied two years previous, thus proving that the marsh-hawk does sometimes occupy an old nest.—C. M. JONES.

THE HOUSE WREN.—The mischievousness of the House Wren (*Troglodytes ædon* Verrill) is well known. The following incident came under my observation a short time since. A pair of Martins had taken possession of a box that I had erected in the garden for their benefit; had built their nest, laid their eggs, and had commenced setting, when a pair of house wrens, who coveted their neighbor's house, entered it in the absence of the martins, and coolly picked up their eggs one by one, carried them out, and dropped them to the ground below. While engaged in this impudent business, the martins returned, and while going in at one of the entrances of the box, the daring marauders darted out at the other, and alighting on a tree near by chattered noisily, apparently in great glee. The martins, finding that their nest had been despoiled, abandoned the box, which was then duly taken possession of by the wrens, who reared two broods of young hopefuls during the summer, the first about the beginning of June, the second the latter part of July.—M. S. HILL, *East Liverpool, O.*

DESTRUCTIVENESS OF THE LARVA OF THE GOLDSMITH BEETLE.—In previous numbers of the NATURALIST, I ventured the opinion that the Goldsmith Beetle (*Cotalpa lanigera*) was not likely ever to prove a serious pest to the agriculturist. As respects the insect in its beetle state, perhaps this may prove correct; but so far as that opinion may have related to the larva of this insect it must be retracted, as a positive observation lately made must settle this matter forever.

When on a visit in September last to the farm of a celebrated strawberry grower, in Monmouth County, N. J., my attention was directed to certain large patches badly thinned out by, as the phrase went, "the worm." The plants were dead on the surface and easily pulled up, the roots being eaten off below. It was observable that the fields which pre-

sented the worst appearance were all of the same kind of plant; that known as Wilson's Albany Seedling. Besides this there were nine other varieties under culture: Barne's Mammoth, Schanck's Excelsior, the Agriculturist, Triomphe de Gand, Cutter's Seedling, the Jucunda, Pine Apple, Early Scarlet, and Brooklyn Scarlet. While the Wilson stood second to none of these as a prolific fruit-bearer, yet it fell behind them in vigorous plant growth. Hence, while every kind was more or less affected, the other varieties seemed saved by their own growth and energy from a destruction so thorough as was that of the Wilson. These patches were all planted in the spring, and all received the same treatment, the ground being kept open and free from weeds. The amount of the spring planting was seven and a half acres. Of the Wilson's there were three different patches, in places quite separated from each other, and on not less than five different kinds of soil. These patches were among and contiguous to those of the other varieties. While all suffered more or less, the chief injury befell the Wilson's, of which not less than two acres were irretrievably ruined.

An examination turned up the depredator, who was none other than the larva of the Goldsmith Beetle, now engaged in the first one of its allotted three summer campaigns of mischief. These grubs were from the eggs deposited in June, in the well tilled and clean soil, which, I have said elsewhere, I thought the *Cotalpa* preferred to meadow or grass lands. Compared to others, the larva of this beetle is sluggish and easily captured. The black grub of the spring, which is such a pest, attacking almost indiscriminately the early tender plants, inflicts its injuries chiefly in the night, the exception being that of dull and cloudy days. The night's mischief done it descends into concealment at early dawn. Knowing this the wise farmer is in search of it at an early hour, ere the warmth of the sun gives it warning to retreat. But the Goldsmith grub can be taken at any hour of the day simply by scratching away the earth from around the roots of those plants whose dark shrivelled leaves tell of the enemy's presence. It is my belief that this devastation might have been spared by an outlay of from \$20 to \$30 for labor, of which, under proper direction, much could have been done by children. Therein would have been saved a strawberry crop for the ensuing summer, worth scarcely less than \$25 00 for, from this same farm the crop of a single acre has been sold for \$1500; Then, however valuable such labors are in immediate results, that is but a fraction of their worth as respects the future. These *Cotalpa* grubs, with all their mischief, had not more than a third of their ultimate size; hence their real ravenousness is yet to come. Besides what a prospect of increase of numbers, should even a moderate share of them reach maturity? Why should not our farmers seek to know something about their insect enemies, and when practicable put forth some energy to meet them as such?—REV. S. LOCKWOOD.

THE LYCOSA SPIDER AND ITS YOUNG.—On the 27th of June I saw a spider descending the trunk of a tree. At a distance of six feet it ap-

peared the size of a pigeon's egg. As soon as it observed me it stopped. Approaching it gradually I could see it crouch, evidently aware that it was noticed. I sharpened a long stick and stuck a pin through the end, and made a strike to empale the body and missed it. What was my astonishment when I beheld a mass of life *uniformly distributed* over the spider; it was all alive. I knocked the spider from the tree to a flat rock beneath; the jar seemed to shake from its abdomen what I soon saw were young spiders, as the rock was *black* with the young ones for a space of six inches in diameter around the old spider. The parent spider did not attempt to run but crouched, and the young began to gather upon her body again. I made a successful hit, and stuck the pin where it held, and the moment it was inserted into the spider's body, the young left at once and dispersed upon the rock. I soon perceived the floating webs passing from the rock to spears of grass on which spiders were quite thick. I should say, at a pure guess, that there were two hundred young spiders, but from the long legs they spread out, they seemed even more numerous. I next noticed spiders upon my coat, hat and collar, and experimented myself with the spider throwing out the floating web. When about six to ten feet from the rock, I saw in the sunlight two webs floating aside of each other, about one foot apart. I saw that the terminus of these webs were but a short distance from my face, and at each end a spider. They moved slowly before the wind, and I watched them for several feet, mounting upwards until lost to view.—G. W. PECK.

[Several species of the genus *Lycosa* are known to have the habit of carrying their young about with them.—Eds.]

THE CATTLE TICK.—The perfect insect found in Texas, gorged with blood and ready to give birth to its young, is much like Fig. 1e of the Moose Tick (NATURALIST, Vol. II, p. 559). They drop from the cattle in the woods, and more frequently along the cattle paths. How long before they appear as "seed ticks" I do not know. It was a prevalent notion among the people that they burst open, nearly the whole interior being composed of the young. These, probably, soon after birth, ascend to the tip of the nearest twig or culm of grass, where they form into a little mass, with their legs extended ready to seize upon any passing animal. When taken off by one they soon commence operations, and in three or four days, I should think, gorge themselves and fall off. They are then, except as to size, much like the full-grown gorged insect. How long a time is required for them to become depleted, or to regain their flattened form, I do not know; but when ready for a new meal or a new transformation (now called "yearling ticks"), they again ascend bushes, but not in clusters; or they crawl over fallen leaves and attach themselves again to animals as chance may offer. They again gorge themselves and fall off as before, to become lean a second time. A third time they fasten to horses, cattle, hogs, dogs, man, and other animals. This seems to be their last time, and, when full, they fall off and become converted to *seed* ticks. This was the common belief, and may be more or less erroneous or defective.

In Cuba I started from St. Jago, with two horses, to go to Havana. Before I had travelled half the journey one of the horses became infested with ticks, the other had none or few. Every day while resting at noon, with a knife I scraped off all the ticks I could see or feel. Notwithstanding all my efforts, the ticks gained upon me so far as regards the horse, but none attached themselves to my person, though I camped most of the nights during the journey, sleeping on the same spots upon which the horses fed. Around the larger ticks were generally found one or more small ones, sometimes many of the latter. I have seen something of the kind in the coast prairies of Texas. Are they viviparous? I never observed anything of the kind in the woodland districts of Texas, and the above mentioned ticks of Cuba were those of the savanna rather than of the timbered parts.—CHARLES WRIGHT.

SUBSTITUTES FOR POLLEN FOR HONEY BEES.—My bees carry into their hives from one hundred to one hundred and fifty pounds of rye meal every spring, during the occurrence of a few warm days before flowers appear. After their appearing in an abundance, the bees will no longer take up the meal. As a consequence of this early and free supply of a material for bee-bread, the queen is stimulated to unusual activity in depositing her eggs, and strong swarms are ready to come out on the bleak shores of Lake Erie by the middle of May,—an occurrence often happening with me since I began to thus feed them, in 1860, but not happening when the meal is withheld. Unbolted rye flour, and also ground linseed or oil-cake may be substituted, but the best rye meal is preferred by the bees, and is perhaps the cheapest. A handful of clean straw should be placed in an open box, standing in the middle of the apiary, and the meal should be scattered over the straw; otherwise many of the bees will get fatally swamped in the meal.—J. P. KIRTLAND, *East Rockport, O.*

HIVE BEES DEVoured BY HORNETS.—The Paper Hornet (*Vespa maculata*) often enters my nucleus hives, when I am rearing Italian queen bees, and captures the young queen in the midst of her little colony; usually just after she has commenced her first laying. I have seen this depredator enter the small hive, drag out the queen, and fly away with her to the woods.—JARED P. KIRTLAND.

VARIATION IN THE SKELETONS OF WHALES.—M. Van Bambeke has been studying the skeletons of whales, and finds greater variation among them than cetologists seem to believe. The symmetry of the head is rarely complete, since the two sides are generally unlike. There are greater individual differences than usual in other vertebrate animals, and a great number of individuals are necessary for the establishment of species. There are, however, some naturalists for whom any modification, however small it may be, suffices for the creation of new species. The *Tursio* described by M. Van Bambeke, has thirteen ribs on one side, and fourteen on the other, like the skeleton of the *Mysticetus*, at Brussels. In another *Tursio*, of Heligoland, Van Beneden has found thirteen, and in a skeleton of the Mediterranean one, he counted only twelve. Van Beneden

has seen a *Globiceps* with ten ribs, and another with eleven; a Narwhale with eleven ribs, and another with twelve; and some "Killers" (*Orcus*) with twelve, thirteen or fourteen ribs. As to the number of vertebræ, it is true that they do not vary with age, but they vary in number in the same species. The *Balænoptera rostrata* Fabr., so remarkable for its forty-eight vertebræ, sometimes has forty-nine, and he has seen at Bergen, a skeleton of a male and of a female, both from the coast of Norway, of which one had only forty-five vertebræ, and the other forty-nine. Mr. Flower has counted fifty, and Lacépède has mentioned forty-six as occurring in the same species. — *Cosmos*.

EGGS OF YAMA MAI SILK-WORM FOR SALE.—I have received from England, *on sale*, a number of eggs of *Attacus Yama mai*, which I am now ready to deliver. The price of *Yama mai* eggs is ten for 30 cents, or thirty-five for \$1. Picked eggs direct from Japan.—W. V. ANDREWS, 136 Charlton street, New York.

TRANSPORTATION OF LIVING FISH FROM SOUTH OF THE EQUATOR TO EUROPE.—Mr. Moore has succeeded in importing into Liverpool from the River Plata, the first living fish (a fresh-water Cyprinoid) that has been received from the south of the Equator. Dr. E. P. Wright has also brought to Paris living specimens of the only fresh-water Cyprinoid of the Secheylles Islands—*Scientific Opinion*, December.

DEEP SEA DREDGING.—Dr. E. P. Wright has dredged in 480 fathoms, off the coast of Portugal, living specimens of the Glass Sponge (*Hyalonema Lusitanicum*). Until first discovered by Prof. Bocaga, of Lisbon, it had only been known from Japan.

At this great depth, also, lives a shark (*Centroscyminus celolepis* Bocage & Cap.), a small fish (*Chiasmodon niger* Johnson), and an Isis-like coral (*Keratoisis Grayii* Wright).—*Annals and Magazine of Natural History*, December, 1868.

MARSUPIAL DOGS.—Of all mammals there is perhaps not one existing which is so truly interesting, so deeply significant of the history of the development and geographical distribution of mammals, as the marsupial dog. There are two Tasmanian species of this genus, *Thylacinus*, one of which is called the greyhound, and the other the bull-dog tiger.—*Quarterly Journal of Science*, January, 1869.

THE BELTED KINGFISHER AGAIN.—I notice in the *NATURALIST* so many conflicting statements relative to the nesting of the Belted Kingfisher, that I feel prompted to add my own observations upon the breeding of this well known bird. In Southern Illinois the Kingfisher is resident, and usually begins incubation about the middle of April. I have found numerous nests, all similarly located, viz., in the bank of some stream, or ravine, frequently far from any stream affording it a supply of food. On one occasion I found its excavation in the cut of a railroad, at least a mile from the river. The excavations that I have found varied in length from three to as much as nine feet, but more generally

about six feet. Frequently the excavation makes a rather abrupt bend, in the form of an elbow, but I have often found it straight to the end. I believe the termination is a little higher than the entrance. The "nest" was always in a sort of oven-shaped chamber, near the end, the bottom being a little lower than the floor of the tunnel." I have never found any elaborate nest, the eggs in a majority of cases lying on the bare earth. On two occasions, however, I have found a bed of broken fragments of crawfish shells, and fish-bones; but never to my knowledge any sticks or straws, or, indeed, feathers except those from the body of the owner. I have never found the bird sitting on less than six, or more than seven eggs, and I do not believe the number ever exceeds the latter. Both sexes incubate, as I have caught both male and female upon the eggs.—
ROBERT RIDGEWAY.

GEOLOGY.

KYCKENMEEDINGS IN IOWA.—In November last, Mr. J. J. Kinersly of Keosauqua called my attention to some aboriginal relics he had discovered upon the bank of the Des Moines River, near that place, while the workmen were cutting the bank for a road to a newly established ferry, and digging a hole for the post which supports the ferry-rope. In digging this hole they passed about four feet through a layer of silt-like earth, crowded with the shells of *Unios*, before they reached the original surface. These shells are of the same species that now inhabit the stream, among which were recognized *Unio plicatus*, *U. rectus*, *U. metanoeva*, *U. crassus*, etc. The locality is just above the mouth of a small creek, which has cut into the accumulation by the shifting of its channel, and leaves it without that symmetry of outline it would doubtless have possessed if it had not been disturbed. The heap is not above the reach of the highest floods of the river, and has evidently been largely composed of the silt brought down by the river and creek at the times of high-water. Mingled with and composing a large part of its bulk, are the shells which were brought from the bed of the river when the water was low—the only time they are accessible—and the mollusks were evidently cooked and eaten upon this spot during many years. The bed of the river opposite this spot is broad and gravelly, and an excellent habitat for the mollusks, while both above and below the bottom of the river is not so favorable for their growth.

No other shells besides *Unios* were found, although a few others may yet be discovered. Very few other kinds are to be found in the river near there. The bones of the deer are common among the shells, the marrow bones always being split open. Pieces of the carapace and other bones of the fresh-water turtle were also found. Among the implements found by the slight excavation mentioned, are one hatchet of greenish hornblendic rock, some flint arrow-heads and sharp-edged flints, probably used for skinning animals, and fragments of crude pottery. Some fragments of the latter bear evidence of having been burnt in contact with